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09368505 BA

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CD(s) containing:

computer program listing

Doc Code: Computer

Artifact Type Code: P

pages of specification

and/or sequence listing

and/or table

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Artifact Type Code: S

content unspecified or combined

Doc Code: Artifact

Artifact Type Code: U

Stapled Set(s) Color Documents or B/W Photographs

Doc Code: Artifact Artifact Type Code: C

Microfilm(s)

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Video tape(s)

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Model(s)

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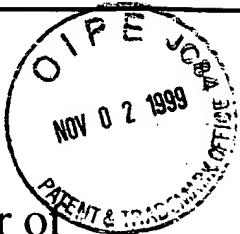
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The United States of America



The Commissioner of
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Has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extension.

Commissioner of Patents and Trademarks

Maryanne V. Turner

Attest



US00563360A

United States Patent [19]

Brandhorst et al.

[11] Patent Number: 5,653,360
[45] Date of Patent: *Aug. 5, 1997

[54] DEVICE FOR EMPTYING A FILM TUBE

- [75] Inventors: Gerd Brandhorst, Landsberg; Wolf-Dietrich Herold, Seefeld; Ralf Heiduczek, Gröbenzell, all of Germany
- [73] Assignee: Thera Patent GmbH & Co. KG Gesellschaft fur Industrielle Schutzrechte, Seefeld, Germany

[*] Notice: The term of this patent shall not extend beyond the expiration date of Pat. No. 5,501,368.

[21] Appl. No.: 574,697

[22] Filed: Dec. 19, 1995

Related U.S. Application Data

[63] Continuation of Ser. No. 371,219, Jan. 11, 1995, Pat. No. 5,501,368.

[30] Foreign Application Priority Data

Jan. 13, 1994 [DE] Germany 9400524 U

[51] Int. Cl. 6 B65D 35/28

[52] U.S. Cl. 222/95; 222/326

[58] Field of Search 222/95, 105, 326,

222/327, 386, 386.5

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[57]**ABSTRACT**

For emptying a film tube 15 containing a flowable substance, the front end of the tube is provided with a ring 17 the peripheral portion 19 of which exceeds the inner diameter of a cartridge 1 which receives the tube 15. The ring 17 has a conical sealing surface 20 which cooperates with a sealing edge 12 formed inside the cap 2. In operation, the cylindrical rear portion 7 of the cap 2 is slid onto a front portion 4 of the cartridge 1, whereby the ring 17 provided on the tube 15 has its sealing surface 20 centered and aligned in the radial and axial directions to ensure proper engagement between the sealing edge 12 and the sealing surface 20.

5 Claims, 1 Drawing Sheet

